

## United States Patent and Trademark Office

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APPLICATION NO.	Fil	LING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO
10/702,372	11/05/2003		Ming-Dou Ker	JC-7897-DIV	8473
23900	7590	11/29/2005		EXAMINER	
J C PATEN			STARK, JARRETT J		
4 VENTURI IRVINE, CA		230		ART UNIT PAPER NUMBE	
, <b>-</b>				2823	

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

•			AX
	Application No.	Applicant(s)	110
	10/702,372	KER ET AL.	
Office Action Summary	Examiner	Art Unit	
	Jarrett J. Stark	2823	
The MAILING DATE of this communication ap Period for Reply	pears on the cover sheet w	ith the correspondence addre	ss
A SHORTENED STATUTORY PERIOD FOR REPI WHICHEVER IS LONGER, FROM THE MAILING [ - Extensions of time may be available under the provisions of 37 CFR 1 after SIX (6) MONTHS from the mailing date of this communication If NO period for reply is specified above, the maximum statutory period - Failure to reply within the set or extended period for reply will, by statu Any reply received by the Office later than three months after the maili earned patent term adjustment. See 37 CFR 1.704(b).	DATE OF THIS COMMUNI .136(a). In no event, however, may a d will apply and will expire SIX (6) MOI tte, cause the application to become A	CATION. reply be timely filed  NTHS from the mailing date of this commi BANDONED (35 U.S.C. § 133).	
Status			
1) Responsive to communication(s) filed on 05	November 2003.		
·— · ·	is action is non-final.		
3) Since this application is in condition for allows closed in accordance with the practice under			erits is
Disposition of Claims			
4) ⊠ Claim(s) 39-42 and 46-48 is/are pending in the 4a) Of the above claim(s) is/are withdress 5) □ Claim(s) is/are allowed.  6) ⊠ Claim(s) 39-42 and 46-48 is/are rejected.  7) □ Claim(s) is/are objected to.  8) □ Claim(s) are subject to restriction and an are subject.	awn from consideration.		
Application Papers			
9) The specification is objected to by the Examir 10) The drawing(s) filed on <u>05 November 2003</u> is Applicant may not request that any objection to the Replacement drawing sheet(s) including the correction 11) The oath or declaration is objected to by the I	/are: a)⊠ accepted or b)[ ne drawing(s) be held in abeya nection is required if the drawing	nnce. See 37 CFR 1.85(a). g(s) is objected to. See 37 CFR	1.121(d).
Priority under 35 U.S.C. § 119			
a) Acknowledgment is made of a claim for foreign a) All b) Some * c) None of:  1. Certified copies of the priority docume 2. Certified copies of the priority docume 3. Copies of the certified copies of the priority docume application from the International Bure * See the attached detailed Office action for a list	nts have been received.  Ints have been received in a light in the control of the	Application No. <u>10060743</u> . n received in this National Sta	age
Attachment(s)  1) Notice of References Cited (PTO-892)  2) Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No	Summary (PTO-413) o(s)/Mail Date	
Notice of Draisperson's Patent Drawing Review (175 345)     Information Disclosure Statement(s) (PTO-1449 or PTO/SB/C Paper No(s)/Mail Date	5) Notice of 6) Other:	Informal Patent Application (PTO-15	52)

Application/Control Number: 10/702,372

Art Unit: 2823

## **DETAILED ACTION**

## Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 39 rejected under 35 U.S.C. 102(b) as being anticipated by Voldman et al. (US 6,015,993).

Regarding claim 39, Voldman teaches a method of forming a non-gate diode of a SOI, comprising:

providing a SOI with a substrate (<u>Voldman</u>, Figs. 7), an insulating layer (<u>Voldman</u>, Figs. 7, element 156) and a silicon layer (<u>Voldman</u>, Figs. 7, element 154) sequentially stacked together,

forming a pair of isolating structures (<u>Voldman</u>, Fig. 7, elements 126) in the silicon layer, so as to define a well region (<u>Voldman</u>, Fig. 7, elements 152) there between;

forming a first type doped region and a second type doped region in the well region and adjacent to the isolating structures (<u>Voldman</u>, Fig. 7, elements 162 & 164) .

Application/Control Number: 10/702,372

Art Unit: 2823

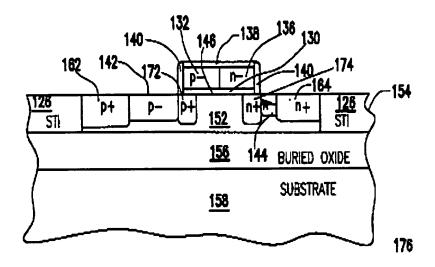


FIG.7

Regarding claim 40, <u>Voldaman</u> teaches the method according to claim 39, wherin the first type and second type doped regions are implanted with P-type and N-type ions, respectively (<u>Voldaman</u>, Fig. 7, elements 162 & 164).

Regarding claim 41, <u>Voldaman</u> teaches the method according to claim 39, wherein the well region is lightly implanted with a P-type ion (<u>Voldaman</u>, Fig. 7, elements 142).

Page 4

Application/Control Number: 10/702,372

Art Unit: 2823

Regarding claim 42, <u>Voldaman</u> teaches the method according to claim 39, wherein the well region is lightly implanted with an N-type ion (<u>Voldaman</u>, Fig. 7, elements 144).

Regarding claim 46, Voldaman teaches a method of forming a non-gate diode in a CMOS process, comprising:

Providing a substrate (<u>Voldaman</u>, Fig. 7, elements 156) having a well region therein (Voldaman, Fig. 7, elements 152);

Forming a pair of blocking isolation structures in the substrate (<u>Voldaman</u>, Fig. 7, elements 126);

Forming a first type-doped region (<u>Voldaman</u>, Fig. 7, elements 162) located in the well region and between the blocking isolation structure, and

Forming a pair of second type doped regions (<u>Voldaman</u>, Fig. 7, elements 144 & 164) located in the well region and respectively adjacent to the blocking isolation structure (<u>Voldaman</u>, Fig. 7, elements 126), wherein each second type doped region is separated from the first type doped region by the well (<u>Voldaman</u>, Fig. 7, elements 152).

Application/Control Number: 10/702,372

Art Unit: 2823

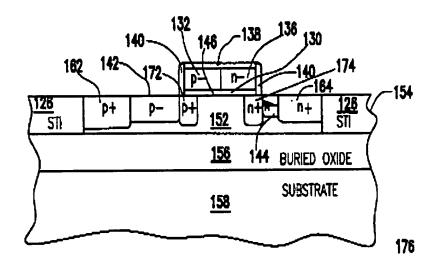


FIG.7

Regarding claim 47, <u>Voldaman</u> teaches the method according to claim 46, wherin the first type doped region and the second type doped region are implanted with P-type and N-type ions respectively (<u>Voldaman</u>, Fig. 7, elements 162 & 164).

Regarding claim 48, <u>Voldaman</u> teaches method according to claim 46, wherein the well region is lightly implanted with a P-type ion (<u>Voldaman</u>, Fig. 7, elements 142).

Art Unit: 2823

## Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jarrett J. Stark whose telephone number is (571) 272-6005. The examiner can normally be reached on Monday - Thursday 6:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on (571)272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JJS November 22, 2005

> W. DAVID COLEMAN PRIMARY EXAMINER